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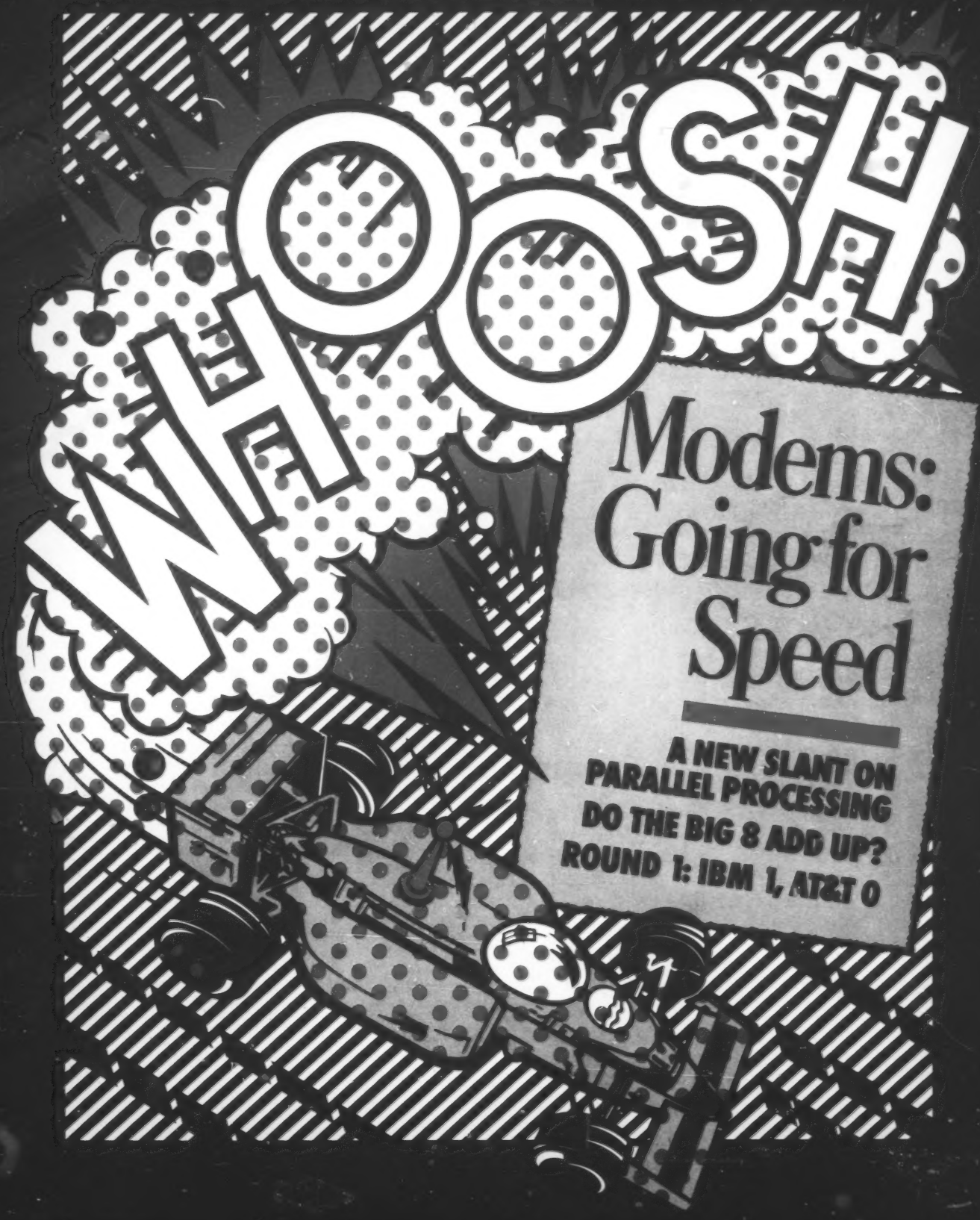

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COVER ILLUSTRATION BY DOUG TAYLOR

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Editorial

All the Wrong Choices?

AT&T says it is not getting out of the computer business. But many in MIS still don't know AT&T's in that business.

More than three years after deregulation, AT&T is still thought of by most as "the telephone company." AT&T still holds its own as the dominant long distance communications supplier, but can it go the long distance toward becoming a vendor of integrated computer/communications offerings? (see "Round One: IBM 1, AT&T 0," p. 37).

We asked that question of 22 members of the DATAMATION Executive Panel, comprised of MIS executives in Fortune 1000 companies. As managing editor Parker Hodges reports on p. 38, most have no experience with AT&T as a computer supplier. Only three of the 22 MIS execs knew of any AT&T micros or minis in use in their corporations. The most positive response we got to the question of how MIS evaluates AT&T's minicomputers was that they are "better than IBM's, worse than Digital Equipment Corp.'s." Most say they have no idea, no experience on which to base judgment—and no plans to find out.

AT&T had more promise than most companies for huge success in the computer business: its very foundations are in electronics. Bell Labs, founded in 1925, is responsible for many of the most important technological developments in electronics today—the transistor, the laser, and the solar cell, to name a few.

But it's a long road from the labs to the hearts and minds of MIS.

Three years ago, we were looking at AT&T as IBM's soon-to-be rival. Now, in 1987, we see AT&T dismissing up to 40,000 employees, its data systems operations losing big money, and its hoped-for savior, Unix, promising much but delivering less than had been wished for (see "Barking Up the Wrong Tree," p. 22). After going outside—the company and the country—for computers to market, AT&T recently brought in an Olivetti executive to run its computer business.

Where will we find AT&T three years from now? Who knows—maybe it will be a subsidiary of Olivetti. Funny? I'll bet Carlo de Benedetti won't laugh at that one. . . .

Rebecca S. Barna

REBECCA S. BARNA
EDITOR

To claim a share of the electronic publishing market, vars must move fast. The hottest area in desktop publishing is for systems that run on IBM-like hardware and do what can be done on the Apple desktop publishing system. To sustain a high rate of return in this market over the long term, vars should focus on the more complex or multiuser applications. WYSIWYG "is almost passé. The next level is to integrate WYSIWYG with CAD/CAM." The migration of electronic publishing will be from the engineering and technical departments into the rest of the corporation.

Let the Presses Roll

BY ANN LALLANDE

The business of delivering electronic publishing systems, says Russ Pond, sales director for a MicroAge Computer store in Norfolk, Va., "is catching on like wildfire."

The advent of the laser printer, graphics-oriented microcomputers, and all manner of clever inventions has turned publishing into an electronic art form and improved the visual quality of business documents exponentially. Suddenly, the medium is an integral part of the message, and everyone corporate wants to write in proper font and point.

A $503 million industry in 1985, the electronic publishing market—not including output devices—will top $4 billion in 1990, predicts CAP International Inc., Marshfield, Mass. Less conservative estimates figure that annual sales for the entire market will ring up to $7 billion by the end of the decade.

FOR RESELLERS, THE BIG YEAR IS 1987.

Electronic publishing, enthuses Tim Bajarin, a vice president at Creative Strategies Research International in San Jose, "is probably the most significant market for value-added resellers since the introduction of the personal computer." It provides one of the few opportunities, he says, "for vars to develop and sell a complete systems solution in the way minicomputers and custom software were sold 10 years ago."

Naturally, vars are not the only contenders for the electronic publishing jackpot. Nevertheless, by the end of the decade, according to International Data Corp. (IDC), Framingham, Mass., they can expect to move 5% of the low-end, desktop publishing software packages, 12% of the midrange systems, and 15% of the high-end solutions. That could add up to nearly $500 million in sales in 1990.

To claim a share of the revenues, however, vars must move fast. "The market is maturing so quickly," explains Bajarin, "that from the standpoint of the var, the big year is really 1987. By 1989, the system solution will not need as much support."

This could prove especially true at the low end of the market. The entry-level electronic publishing market is defined generally by microcomputer-based desktop publishing (DTP) systems, while the market's midrange and high-range solutions are built around workstations and mainframes.

Though desktop publishing has its roots in an application for individuals, publishing is often a group process. Consequently, predicts Arlene E. Karsh, director of computer publishing systems at CAP International, as personal computers become more powerful and as the operating and software systems begin to accommodate networking, "you will see further generations of desktop publishing address the work group." DTP, concludes Karsh, "is a moving target."

At the low end, desktop publishing systems fall into two camps: Macintosh systems (see "Apple's Life Saver") and IBM or IBM-compatible systems. Currently, this is a very viable var market because "these are not simple programs," says Meg B. Wingard, marketing representative for Northshore Publishing Systems, a Seattle reseller. "The manuals are not as precise as they should be, and a fair amount of hands-on training is needed for someone to get up to speed rapid-

ly." This is true of the Macintosh even though it is user friendly, specifically designed for graphics, and systems oriented.

Any complexity faced by Macintosh users, however, pales when compared to the challenges encountered by owners of the IBM PC, its upgrades, and its look-alikes. Just to get the IBM PC to act more like the Macintosh, says MicroAge's Pond, an admitted Mac enthusiast, users need to buy a special mouse unit, a hard-disk drive, an enhanced graphics card, and an enhanced color display.

In addition, dozens of software companies are developing publishing packages they promise will work on the IBM PC. Many do not, at least not straight off the shelf, says Ajit Kapoor, director of electronic publishing services at Dataquest Inc., San Jose. Each needs some customization.

An Erector Set Universe

The IBM PC publishing market, concludes Woodrow H. Vandever, executive vice president of InterConsult Inc., Cambridge, Mass., "is an erector set universe." From a var's perspective, that is a dream come true. Not surprisingly then, "the theme of the year and the hottest area in desktop publishing is systems that run on IBM-like hardware and do what you can do on the Apple desktop publishing system," says CAP International's Karsh. At Comdex/Fall last November, for example, AST Research Inc., Irvine, Calif., and Cordata Technology Inc., Thousand Oaks, Calif., introduced complete DTP systems built around IBM PC compatibles.

Vars are convinced that as solutions become available for the IBM environment, sales will increase significantly. Currently, Computer Realization Inc., a Salt Lake City var, pulls in one third of its revenues from desktop publishing. Most of this income has been realized from the sale of Macintosh systems, but now the company will go back to its installed base of IBM users or users of IBM look-alike equipment, who have been waiting for an IBM solution.

Despite Computer Realization's success in desktop publishing and the high volume of DTP sales in general, president Margaret S. Hunter takes a dim view of the market's future margins. This, she declares, "is a short-term market of one to two years." Hunter is certain that desktop publishing will go the way of word processing: "Everyone will be doing it, and you will be able to go into your local Businessland and pick it up."

FIGURE 1 Electronic Publishing Market: 1985-1990

YEAR	TOTAL ELECTRONIC PUBLISHING MARKET*	HOST-BASED SOLUTIONS (MINI OR MAINFRAME)	NETWORKED WORKSTATIONS	PC-BASED PUBLISHING SYSTEMS
1985	$503 million	$302 million	$146 million	$55 million
1990	$4.03 billion	$1.57 billion	$1.53 billion	$929 million

*Not including output devices

Source: CAP International Inc., 1986

FIGURE 2 U.S. In-House Publishing Market: 1985-1990

Percentage of Packaged Software and Systems by Distribution Channel

SEGMENT	DIRECT SALES	DISTRIBUTORS	OFFICE DEALERS	RETAIL	VARS	TOTAL
DESKTOP SOFTWARE PACKAGES						
1985	60.0	20.0	2.5	15.0	2.5	100.0
1990	35.0	25.0	10.0	25.0	5.0	100.0
MIDRANGE SYSTEMS						
1985	80.0	17.0	2.0	1.0	—	100.0
1990	50.0	30.0	5.0	3.0	12.0	100.0
HIGH-END SYSTEMS						
1985	90.0	10.0	—	—	—	100.0
1990	63.0	20.0	2.0	—	15.0	100.0

Source: International Data Corp., 1986

To sustain a high rate of return over the long term in the electronic publishing market, then, vars should focus on the more complex or multiuser applications, whatever hardware solutions they may entail. Viewed as a horizontal market, with most companies scrambling to meet administrative, graphic, and technical publishing needs, electronic publishing offers a myriad of specialties and subspecialties for vars to exploit.

The fact that publishing applies across departmental lines will not only be good for business, "it will have a big impact on how vars do business," says Clark Hills, senior marketing manager for computer aided publishing at Apollo Computer Inc., Chelmsford, Mass. "Vars can no longer just come out with point products and try to automate a specific piece of the publishing application. They are absolutely forced to coexist in other environments."

In technical publishing, for example, manufacturers are beginning to connect computerized design programs with documentation processing programs because the documentation of technologically advanced products may consume anywhere from 10% to 30% of the design process and new products cannot be released until their documentation is completed. Within this context, the trend in electronic publishing solutions to provide users with a "what you see is what you get" (WYSIWYG) picture on their monitors "is almost passé," observes Hills. The next level, he says, "is to integrate WYSIWYG with CAD/CAM."

To achieve this degree of integration, though, CAD vars have to cooperate with the technical illustrating vars, who have to work with technical composition vars, and so on down the line. The point of the exercise, explains Hills, "is to improve the productivity of the work group, not just of the individual."

Requirements Will Vary

Of course, requirements will vary from one corporate publishing group to another. A technical publishing system

has to be strong on computer-generated graphics and able to handle long documents. Interleaf Inc., Cambridge, Mass., has targeted this market—some say created it—with its technical publishing software (TPS), which runs on IBM, Apollo, Sun, and Digital workstations. Interleaf's typical TPS customer dedicates its system to an in-house publishing function and uses it 100% of the time to produce documents of 100 pages or more.

The company's main focus within technical publishing is manufacturing, and its clients include General Motors, Alcoa, Alliant Computers, and McDonnell Douglas Aerospace. "Manufacturers are under a lot of pressure to enhance their productivity," says Leslie J. Anderson, a marketing manager at Interleaf. "They have trimmed existing fat, made plants energy efficient, and automated to some extent. This is one of the last gray areas that people didn't want to deal with."

Nevertheless, firms began to take a look at the numbers, and the news was not good. InterConsult estimates that corporate expenditures on printing and publishing services consume between 6% and 10% of gross revenues. Then, however, companies discovered that electronic publishing could reduce these outlays from 25% to as much as 60%, while giving them control of their documents and reducing their reliance on outside vendors. That, says Anderson, "was when manufacturing jumped right on it."

RG Engineering, Rochester, N.Y., has watched firsthand as computer aided design moved into the electronic publishing arena. RG, which has operated as a var in the PC-based CAD market, is now offering a variety of hardware and software solutions for the publishing market. The reseller features Xerox's Ventura publisher and IBM's AT and RT. Says president Robert A. Giese, "We feel that the migration of electronic publishing will be from the engineering and the technical departments into the rest of the corporation."

One destination is administration and office management. Tools for this environment, says CAP's Karsh, will probably look like word processors. Then, depending on a firm's line of business, system capability might handle and manipulate large databases, generate preformatted forms, and process text, statistics, and graphics generated by other departments.

There is much talk about how word processing will become a subset of electronic publishing, or vice versa. Alan P.

Apple's Life Saver

You remember, it was Apple Computer Inc. that brought us the personal computer market. IBM, noticing that Apple was onto something good, then dove in and nearly swamped its rival. Since then, Apple has had its ups and downs, and at times some people have wondered whether it would sink or swim. Of course, all that was before Apple virtually created the desktop publishing market around its Macintosh computer.

With that initiative, the company seems to have found its stroke again, and desktop publishing (DTP), says Russ Pond, sales director for a MicroAge computer store in Norfolk, Va., "is driving it into those areas that it previously had been held out of, diffusing the MS/DOS barrier that existed in the past."

Pond's store, for one, is having a great deal of success integrating the Macintosh into the IBM environment—AKA corporate America. Before DTP made a big splash, the Macintosh did not see the inside of very many companies, reports Pond. "Now, it's getting into big-time business."

Presumably, this has contributed to the Mac's recent success. In retail sales—as opposed to direct sales, where IBM still dominates—the Macintosh has been the country's number one selling computer. The Mac has managed to capture 90% of the desktop publishing market among small newspapers and it has cornered 75% of the entire market, according to Dorman Associates Inc., Marshfield, Mass.

In the desktop publishing market, the PC—as in IBM PC and its clones—"is still getting its butt kicked by the Macintosh." So says Jim L. Lucas, vice president of sales at American Business Machines, a value-added distributor based in Nashville.

But not for long, according to Lucas. Though he has only just jumped into the DTP market, Lucas is so confident of IBM's ability to recover that he is taking the plunge with the IBM PC. "By late spring, early summer," predicts Lucas, "the PC desktop publishing market will start to take hold."

And Lucas is not the only reseller who thinks this way. Computer Realization Inc., a value-added reseller located in Salt Lake City, used to sell the Macintosh until Apple took its business elsewhere. According to president Margaret S. Hunter, however, it was just a matter of time before her company would have stopped carrying the Mac.

Computer Realization's desktop publishing sales with the Macintosh accounted for about 33% of its revenues, or $33,000 a month. With an IBM solution, though, Hunter expects to realize two to three times that. "We've stayed in touch with our [installed base]," she says, "and they've been very patient about waiting for the IBM product."

Apple remains unconcerned about such talk. John M. Scull, marketing manager for desktop publishing, acknowledges that Macintosh's DTP system has served as an entrée into the corporate world, but he insists that it is by no means the Mac's only ticket into the office.

According to Scull, the high visibility enjoyed by the desktop publishing door-opener is due more to Apple's dominance of that market than anything else. He is quick to point out that "if you look at some of the other products available on the Macintosh, often times you'll see it's the Excel spreadsheet, the Double Helix, or Omnis Three database applications, Microsoft Word, and several project management products that are getting us into that key department within a company."

Nevertheless, some analysts seem to think that the impact of desktop publishing on Apple's business sales cannot be underestimated. "It has been the most effective backdoor approach to getting recognized by corporate America," declares Tim Bajarin, a vice president at Creative Strategies Research International in San Jose. The problem that Apple has, he goes on to explain, "is that it tends to be the evangelist. It does its homework, educates the market, preps it, and gives it the initial solution, while IBM sits back, twiddles its thumbs, and then goes to school on Apple."

In other words, the pattern appears to be repeating itself. Just as Apple thinks it is safe to go back into the water, IBM is beginning to circle. Perhaps this time around, Apple has made sufficient capital on its head start to outswim Big Blue's grasp.

Hald, chairman of MicroAge Computer Stores Inc., headquartered in Tempe, Ariz., envisions the two applications combined into what he calls a document management system. Hald prefers to decide for himself—rather than abdicate the control to his graphics department—where the visuals of a document should be positioned relative to the text and what format the text should ultimately take. Electronic publishing, he says, "is a very, very powerful tool for people who feel it's important to communicate information in the proper context."

This view, says Creative Strategies' Bajarin, is shared by a good many executives. "Most businesses are not interested in publishing per se," he insists. "What the word processing market is looking for and demanding is a product that allows it to control page layout."

Ashton-Tate Co., Culver City, Calif., is poised to address the office market, notes one analyst, "with a product designed to help the general pc user and word processor control his page and make it look elegant." He predicts the package "will be the most powerful product for the office and it will allow the word processor to become a typography-rich tool."

Corporate graphic arts departments, by contrast, are publishing oriented. In fact, they may service all the publishing needs of a company. Consequently, their publishing solutions require a great deal more sophistication and flexibility in font selection; in the graphics they can generate or reproduce, including presentation graphics; in input and output devices; and in document length and volume.

Graphics a Segment of Vertical Market

Actually, graphic arts departments represent one segment of the vertical market in electronic publishing—those companies earning their livings in the traditional publishing, printing, and graphics industries. This is the market Apple encourages its vars to pursue.

Apple believes its dealers can handle the more generalized publishing applications, while the prepress typesetter market, print shop operations, newspaper systems, and large corporate publishers require the depth of expertise and specialization that only a var can provide.

Still, the vertical market has its drawbacks. Because it is absorbing the technology so rapidly, says MicroAge's Pond, sales for entire system solutions are likely to peak quickly. A healthy aftermarket will fill the void, but that is an incremental business. As a result, vars are adopting something of a cross-cultural tack in the sale of electronic publishing systems. For example, MicroAge in Norfolk, Va., earns 50% of its revenues from electronic publishing sales, and is marketing DTP systems to television stations, architects, law firms, and aerospace companies, to name a few.

To expand the capabilities of the systems it installs, the store, which Pond describes as a full-service, value-added dealer, has established an experimental network to provide customers with the option of high-quality output on a typesetter. If all goes well, Pond hopes the network eventually will allow users to exchange graphic information.

Despite the widespread enthusiasm for electronic publishing, the systems are not exactly selling themselves. Shelley Bakst, a senior analyst at IDC, notes that short product cycles are raising concern about obsolescence; would-be users are not sure whether to plunge in and buy a system now or to wait.

At the high end of the market, customers are worried about the effectiveness of training programs, since not everyone is a graphics artist. Finally, companies are anxious about the lag in the development of industry standards. They are jittery about whether publishing solutions will integrate well with other in-house systems, or if they will become isolated clusters incapable of communicating with anything else inside or outside their companies.

This, of course, is the stuff on which vars thrive. A key factor in the success of a sale, however, is whom you talk to. While many vars are approaching companies on a departmental basis, Interleaf's Anderson recommends going to the MIS staff. MIS departments are increasingly getting involved in the buy decisions for electronic publishing systems, she says, and that is all to the greater good of both vendors and buyers. Although the selling cycle may stretch out while MIS tries to secure a standard that will work throughout the company, ultimately an order may be significantly larger because the MIS manager may recommend electronic publishing to several other departments within the corporation.

A var's perseverance will then pay off handsomely. Electronic publishing, promises Computer Realization's Hunter, "is a very lucrative, high-margin business." ■

Cartoon by Eli Stein

Ann Lallande is a freelance writer based in Alexandria, Va.